CLAIMS

1. A method of forming a supported bore comprising the steps of:

mounting a first drill bit on a first tubular member;

drilling a first bore to a first depth;

inserting a second drill bit mounted on a second tubular member within the first tubular member; and

directing the second drill bit towards a wall portion of the first tubular member and drilling through said wall portion and drilling a second bore to a second depth.

2. A drilling assembly comprising a first drill bit mounted on a first tubular member and a second drill bit mounted on a second tubular member, wherein at least said first tubular member includes a deflecting member mounted therein.

3. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member is fixed in place in the first bore before the second bore is drilled.

4. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member is fixed in place in the first bore after the second bore is drilled.

5. A method of forming a supported bore as claimed in claim 3, wherein the first tubular member is cemented in place in the first bore.

6. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member is fixed in place within the second bore.

7. A method of forming a supported bore as claimed in claim 6, wherein the second tubular member is cemented in place within the second bore.

8. A method of forming a supported bore as claimed in claim 1, wherein the second drill bit is directed towards the wall portion of the first tubular member by use of a deflecting member mounted within the first tubular member.

9. A method of forming a supported bore as claimed in claim 1, wherein the first drill bit is located on a steerable tool before being mounted on the first tubular

member in order to provide the first drill bit and tubular member with directional drilling capability.

10. A method of forming a supported bore as claimed in claim 1, wherein the method is adapted for use in producing a supported bore which extends from surface level and intersects a subterranean hydrocarbon bearing formation.

11. A method of forming a supported bore as claimed in claim 1, wherein the supported bore is a deviated bore.

12. A method of forming a supported bore as claimed in claim 1, wherein the supported bore is a multilateral bore.

13. A method of forming a supported bore as claimed in claim 1, wherein the second drill bit is located on a steerable tool in order to provide the second drill bit and tubular member with directional drilling capability.

14. A method of forming a supported bore as claimed in claim 9, wherein the steerable tool is a mechanical device that can be adjusted to effect changes in bore direction.

15. A method of forming a supported bore as claimed in claim 8, wherein the deflecting member is set at a chosen angle with respect to the longitudinal axis of the first tubular member.

16. A method of forming a supported bore as claimed in claim 15, wherein the deflecting member is set at an angle of between 0.5 and 5 degrees with respect to the longitudinal axis of the first tubular member.

17. A method of forming a supported bore as claimed in claim 8, wherein the deflecting member is fixed relative to the first tubular member.

18. A method of forming a supported bore as claimed in claim 8, wherein the deflecting member includes a hardened surface to deflect the second drill bit towards the wall of the first tubular member and to prevent the member from being destroyed by the second drill bit.

19. A method of forming a supported bore as claimed in claim 8, wherein the deflecting member defines at least one fluid communicating aperture which allows the flow of fluids through and past the deflecting member.

20. A method of forming a supported bore as claimed in claim 8, wherein the deflecting member is a whipstock.

21. A method of forming a supported bore as claimed in claim 8, wherein the deflecting member is a kick-off plate.

22. A method of forming a supported bore as claimed in claim 8, wherein the portion of the wall of the first tubular member opposing the deflecting member is of a reduced hardness relative to the remaining portion of the first tubular member.

23. A method of forming a supported bore as claimed in claim 22, wherein the portion of the wall of the first tubular member opposing the deflecting member is composed of a relatively soft metallic material.

24. A method of forming a supported bore as claimed in claim 22, wherein the portion of the wall of the first tubular member opposing the deflecting member is composed of a composite material.

25. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member comprises at least one casing tubular.

26. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member comprises a plurality of casing tubulars.

27. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member comprises at least one liner tubular.

28. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member comprises a plurality of casing tubulars.

29. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member comprises a plurality of liner tubulars.

30. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member comprises a plurality of drilling tubulars.

31. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member comprises a plurality of drilling collars.

32. A method of forming a supported bore as claimed in claim 1, wherein rotation of the drill bit to effect drilling is provided by corresponding rotation of the tubular member upon which it is mounted.

33. A method of forming a supported bore as claimed in claim 1, wherein rotation of the drill bit is achieved by use of a downhole drive unit.

34. A method of forming a supported bore as claimed in claim 33, wherein the downhole drive unit is a positive displacement mud motor.

35. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member includes a valve assembly for preventing fluids which are located in an annulus outwith the first tubular member from flowing or being displaced into the tubular member.

36. A method of forming a supported bore as claimed in claim 35, wherein the valve assembly is a collar having a selectively closable fluid communicating throughbore.

37. A method of forming a supported bore as claimed in claim 35, wherein the valve assembly is a float collar.

38. A method of forming a supported bore as claimed in claim 35, wherein the valve assembly is located above the deflecting member.

39. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member includes a valve assembly for preventing fluids which are located in an annulus outwith the second tubular member from flowing or being displaced into the tubular member.

40. A method of forming a supported bore as claimed in claim 39, wherein the valve assembly is a collar having a selectively closable fluid communicating throughbore.

41. A method of forming a supported bore as claimed in claim 35, wherein the valve assembly is a float collar.

42. A method of forming a supported bore as claimed in claim 35, wherein the valve assembly defines a throughbore allowing fluids such as cement or drilling fluid which are pumped through the tubular members to pass therethrough.

43. A method of forming a supported bore as claimed in claim 42, wherein the throughbore of the valve assembly is selectively closed.

44. A method of forming a supported bore as claimed in claim 43, wherein the throughbore of the valve assembly is selectively closed by a plug or dart provided from surface level.

45. A method of forming a supported bore as claimed in claim 43, wherein the throughbore is closed by a flapper valve.

46. A method of forming a supported bore as claimed in claim 43, wherein the throughbore is closed by a ball valve.

47. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member includes means for determining at least one parameter of the bore.

48. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member includes a deflecting member and means for determining at least one parameter of the bore.

49. A method of forming a supported bore as claimed in claim 47, wherein the means for determining at least one parameter of the bore include a data acquisition apparatus.

50. A method of forming a supported bore as claimed in claim 49, wherein the data acquisition apparatus is a bore logging apparatus.

51. A method of forming a supported bore as claimed in claim 49, wherein the data acquisition apparatus performs data acquisition while the bore is being drilled.

52. A method of forming a supported bore as claimed in claim 49, wherein a landing joint is provided on a portion of the corresponding tubular member in order to

provide a means for locating the data acquisition apparatus within the corresponding tubular member, and also for allowing the acquisition apparatus to be retrieved from within the tubular member.

53. A method of forming a supported bore as claimed in claim 52, wherein the landing joint landing joint is located above the deflecting member and is located in a fixed position relative thereto such that the orientation of the deflecting member, and thus the deflection angle, may be ascertained by the data acquisition apparatus.

54. A method of forming a supported bore as claimed in claim 49, wherein any data acquisition apparatus located within a corresponding tubular member is retrieved before the tubular member is fixed in place within the bore.

55. A method of forming a supported bore as claimed in claim 1, wherein the first tubular member further includes means for determining the orientation of the first drill bit.

56. A method of forming a supported bore as claimed in claim 55, wherein the orientation of the first drill bit

may be determined by use of the data acquisition apparatus.

57. A method of forming a supported bore as claimed in claim 55, wherein the orientation of the first drill bit may be achieved by use of a Measurement While Drilling (MWD) apparatus.

58. A method of forming a supported bore as claimed in claim 55, wherein where the drill bit is located on the steerable tool, the steerable tool includes include means for directly or indirectly determining the orientation of the first drill bit.

59. A method of forming a supported bore as claimed in claim 1, wherein the second tubular member includes means for determining the orientation of the second drill bit.

60. A method of forming a supported bore as claimed in claim 59, wherein the orientation of the second drill bit may be achieved by use of a Measurement While Drilling (MWD) apparatus.

61. A method of forming a supported bore as claimed in claim 59, wherein where the second drill bit is located

on a steerable tool, the steerable tool includes include means for directly or indirectly determining the orientation of the second drill bit.

62. A method of forming a supported bore as claimed in claim 59, wherein the orientation of the second drill bit may be achieved by use of a Logging While Drilling (LWD) apparatus.

63. A method of forming a supported bore comprising the steps of:

locating a first drill bit on a steerable tool and mounting the steerable tool and first drill bit on a first tubular member, said first tubular member including a deflecting member and means for determining at least one parameter of the bore and the orientation of the drill bit;

drilling a first bore to a first depth;

inserting a second drill bit mounted on a second tubular member within the first tubular member; and

drilling through a wall portion of the first tubular member at the location of the deflecting member and drilling a second bore to a second depth.

64. A method of forming a supported bore, said method

comprising the steps of:

locating a first drill bit on a first expandable tubular member having an upper portion of a first diameter and a lower portion of a second, larger diameter;

drilling a bore with the drill bit mounted on the first expandable tubular member;

pumping cement into an annulus formed between the expandable tubular member and the wall of the bore; and

expanding the upper portion of the tubular member to a third diameter, greater than the first diameter.

65. The method of claim 64, wherein the third diameter is substantially equal to the second diameter.

66. A method of forming a supported bore as claimed in claim 64, wherein the upper portion of the tubular member is expanded by use of an expansion mandrel forced through the tubular member.

67. A method of forming a supported bore as claimed in claim 66, wherein the mandrel is moved in an upwards direction to expand the tubular member.

68. A method of forming a supported bore as claimed in

claim 66, wherein the mandrel is moved in a downwards direction to expand the tubular member.

69. A method of forming a supported bore as claimed in claim 66, wherein the mandrel is substantially conical.

70. A method of forming a supported bore as claimed in claim 64, wherein the tubular member includes a valve member defining a throughbore through which fluid may pass.

71. A method of forming a supported bore as claimed in claim 70, wherein the valve member is a collar.

72. A method of forming a supported bore as claimed in claim 70, wherein the valve member is a float collar.

73. A method of forming a supported bore as claimed in claim 66, wherein the mandrel defines a fluid transmitting throughbore providing a passage for fluid.

74. A method of forming a supported bore as claimed in claim 70, wherein the mandrel is initially located within the lower portion of the tubular member above the valve member.

75. A method of forming a supported bore as claimed in claim 70, wherein the throughbore in the valve member is closable to form a chamber between the valve member and the mandrel.

76. A method of forming a supported bore as claimed in claim 75, wherein the throughbore in the valve member is closed by a plug or dart provided from surface.

77. A method of forming a supported bore as claimed in claim 75, wherein the throughbore in the valve member is closed by a flapper valve.

78. A method of forming a supported bore as claimed in claim 75, wherein the throughbore in the valve member is closed by a ball valve.

79. A method of forming a supported bore as claimed in claim 75, wherein the method further comprises the step of pressurising the chamber formed between the mandrel and the valve member, such that the mandrel is forced through the tubular member to effect expansion of the tubular member.

80. A method of forming a supported bore as claimed in claim 79, wherein by initially pressurising the chamber, the throughbore in the mandrel is closed.

81. A method of forming a supported bore as claimed in claim 80, wherein the throughbore in the mandrel is closed by use of a one way pressure valve.

82. A method of forming a supported bore as claimed in claim 80, wherein the throughbore in the mandrel is closed by use of a flapper valve.

83. A method of forming a supported bore as claimed in claim 79, wherein the chamber is pressurised with a fluid provided from surface, which fluid is pumped through the mandrel and into the chamber.

84. A method of forming a supported bore as claimed in claim 75, wherein the mandrel comprises a pumping mechanism to pump fluid into the chamber.

85. A method of forming a supported bore as claimed in claim 75, wherein a separate pumping unit is utilised to pump fluid into the chamber.

86. A method of forming a supported bore as claimed in claim 85, wherein the separate pumping unit is located adjacent the mandrel.

87. A method of forming a supported bore as claimed in claim 86, wherein the separate pumping unit is located at surface level.

88. A method of forming a supported bore as claimed in claim 66, comprising creating a pressure differential across the mandrel to urge the mandrel through the tubular mandrel.

89. A method of forming a supported bore as claimed in claim 88, wherein pressurised fluid is supplied from surface to create said pressure differential.

90. A method of forming a supported bore as claimed in claim 88, comprising running in a further tubular member to engage the mandrel and supplying pressurised fluid via the further tubular member.

91. A method of forming a supported bore as claimed in claim 90, comprising running said further tubular member following drilling of the bore.

92. A method of forming a supported bore as claimed in claim 66, wherein the mandrel is forced through the tubular member by pulling from the surface.

93. A method of forming a supported bore as claimed in claim 92, wherein the mandrel is pulled through the tubular member by use of a support member.

94. A method of forming a supported bore as claimed in claim 93, wherein the support member is run in following drilling of the bore.

95. A method of forming a supported bore as claimed in claim 93, wherein the support member is a reelable support.

96. A method of forming a supported bore as claimed in claim 93, wherein the support member is a drill pipe string.

97. A method of forming a supported bore as claimed in claim 66, wherein the mandrel is removed from the tubular member once the tubular member has been expanded.

98. A method of forming a supported bore as claimed in claim 64, wherein the method further comprises the step of inserting a second drill bit mounted on a second tubular member within the first tubular member after said first tubular member has been expanded and drilling through a wall portion of the first tubular member and subsequently drilling a second bore.

99. A method of forming a supported bore as claimed in claim 98, wherein once the second bore is drilled to the required depth, cement is pumped into an annulus formed between the wall of the second bore and the second tubular member.

100. A method of forming a supported bore as claimed in claim 98, wherein the first expandable tubular member includes a deflecting member, which deflecting member, in use, deflects or guides the second drill bit towards a wall portion of the first tubular member to be drilled.

101. A method of forming a supported bore as claimed in claim 100, wherein the deflection member is located below the valve member and the mandrel.

102. A method of forming a supported bore as claimed in

claim 98, wherein the second tubular member is expandable and a portion thereof may be expanded to a larger diameter once the second bore has been drilled to the required depth.

103. A method of forming a supported bore as claimed in claim 102, wherein the second tubular member is expanded before cement is pumped into the annulus between the second bore wall and the second tubular member.

104. A method of forming a supported bore as claimed in claim 102, wherein the second tubular member is expanded after cement is pumped into the annulus.

105. A method of forming a supported bore as claimed in claim 64, wherein the volume of cement pumped into the annulus is selected such that the annulus is substantially filled with cement when the upper portion of the expandable tubular member has been expanded.

106. A method of forming a supported bore comprising the steps of:

locating a first drill bit on a steerable tool and mounting the steerable tool and first drill bit on a first expandable tubular member, said first expandable

tubular member including a deflecting member and means for determining at least one parameter of the bore and the orientation of the drill bit;

drilling a first bore to a first depth;

pumping cement into an annulus formed between the first tubular member and the wall of the first bore;

expanding a portion of the first expandable tubular member to a larger diameter;

inserting a second drill bit mounted on a second tubular member within the first tubular member;

drilling through a wall portion of the first tubular member at the location of the deflecting member and drilling a second bore to a second depth; and

cementing the second tubular member in place within the second bore.

107. A drilling assembly comprising a first drill bit mounted on a first expandable tubular member, wherein said first expandable tubular member includes an upper portion of a first diameter and a lower portion of a second, larger diameter.